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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/062,562	02/05/2002	Yuichi Satsu	62807-033	1929

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EXAMINER

FEELY, MICHAEL J

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/062,562

Applicant(s)

SATSU ET AL.

Examiner

Michael J. Feely

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Pending Claims***

Claims 1-5 and 7-10 are pending.

***Drawings***

1. The replacement drawings were received on December 12, 2005. These drawings are acceptable.

***Claim Rejections - 35 USC § 112***

2. The rejection of claim 6 under 35 U.S.C. 112, first and second paragraphs, has been rendered moot by the cancellation of claim 6.
3. The rejection of claim 1-5 and 7-10 under 35 U.S.C. 112, first and second paragraphs, has been overcome by amendment.

***Claim Rejections - 35 USC § 102***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. The rejection of claims 1-3, 8, and 9 under 35 U.S.C. 102(b) as being anticipated by Walpita et al. (US Pat. No. 5,962,112) has been overcome by amendment.
6. The rejection of claims 1-3 and 9 under 35 U.S.C. 102(b) as being anticipated by Tanisho et al. (US Pat. No. 5,856,395) has been overcome by amendment.
7. The rejection of claims 1, 3, 8, and 9 under 35 U.S.C. 102(e) as being anticipated by Wong et al. (US Pat. No. 6,544,651) has been overcome by amendment.

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***Allowable Subject Matter***

8. The indicated allowability of claims 4-7 and 10 is withdrawn in view of the newly discovered reference(s) to Takaya et al. (Pub. No.: US 2002/0039667 A1). Rejections based on the newly cited reference(s) follow.

***Claim Rejections - 35 USC § 102/103***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-4 and 7-10 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Takaya et al. (Pub. No.: US 2002/0039667 A1).

Regarding claims 1-4 and 7-10, Takaya et al. disclose: *(1)* a high dielectric constant composite material (paragraphs 0052 & 0062, 0072 & 0081, 0090 & 0096, and 0106 & 0116) comprising an organic resin (paragraphs 0052, 0072, 0090, 0106, and 0123) and, dispersed therein, an inorganic filler containing metal powder as its essential component (paragraphs 0052, 0072, 0090 and 0106), wherein the inorganic filler contains as its essential component a metal powder subjected to an insulation treatment (paragraphs 0052-0061, 0072-0080, 0090-0095, and 0106-0115);

*(3)* wherein each component of the inorganic filler containing a metal powder as its essential component has an average particle size of 5  $\mu\text{m}$  or less (paragraphs 0052, 0072, 0090, and 0106);

*(4)* wherein the inorganic filler containing a metal powder as its essential component includes agglomerates, and the agglomerates of the inorganic filler has an average particle size of 5  $\mu\text{m}$  or less (paragraphs 0057, 0075, and 0110);

*(7)* wherein said insulation treatment is a chemical treatment using an inorganic salt (paragraphs 0053 and 0210); *(10)* wherein said metal powder is a powder of Al, Mn, Si, Mg, Cr, Nb, Ni, Mo, Cu, Fe, W, Zn, Sn, Pb, Ag, Ti, Zr, Ta, Pt, Sb or an alloy thereof (paragraphs 0069, 0083, and 0193);

(8) wherein the inorganic filler uses a metal oxide together with the metal powder (paragraphs 0078 and 0092) ; and

(9) wherein said metal powder is a powder of an element of Group 1B, 2B, 3B, 4B, 5B, 6B, 7B, 8, 2A, 3A, 4A or 5A (excluding boron, carbon, nitrogen, phosphorus and arsenic) or an alloy thereof (paragraphs 0069, 0083, and 0193).

Takaya et al. do not explicitly disclose: (1) wherein the composite has a dielectric constant of 15 or above in the frequency region of from 100 MHz to 40 GHz; and (2) wherein the composite has a dielectric loss tangent 0.1 or less in the frequency region of from 100 MHz to 80 GHz.

However, the materials used by Takaya et al. are essentially the same as the materials used in the instant invention. Furthermore, the loading percentage of filler in the overall resin/filler matrix used in Takaya et al. appears to significantly overlap percentages used in the instant invention (*see Examples*).

In light of this, it has been found that, “Products of identical chemical composition can not have mutually exclusive properties.” A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Therefore, it appears that the instantly claimed dielectric constant and dielectric loss tangent would have been inherently satisfied by the teachings of Takaya et al. because: (1) they satisfy all of the material and quantity limitations of the instant invention; and (2) it has been

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found that products of identical chemical composition can not have mutually exclusive properties.

***Claim Rejections - 35 USC § 103***

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takaya et al. (Pub. No.: US 2002/0039667 A1).

Regarding claim 5, Takaya et al. do not explicitly disclose: (5) wherein the metal powder has a metallic covering of Cr, Cd, Zn, Mn, or Fe on the surface thereof with a thickness of 1000 to 1 nm (*electroplated surface treatment prior to insulation treatment*).

Rather, Takaya et al. disclose, "The metal particles 1 may be of any material as long as it is magnetic. Use may be made of nickel, *iron*, or *alloy of iron* with another metal at least one selected among nickel, molybdenum, silicon, aluminum, cobalt, neodymium, platinum, samarium, zinc, boron, copper, bismuth, *chromium*, and titanium. Iron-free metal materials such as *Mn-Al*, Co-Pt, and Cu-Ni-Co base alloys are also useful," (paragraph 0193).

The disclosure shows that these materials are considered individually or as alloy materials of the core metal particles. Furthermore, Takaya et al. put no particular restriction on their metal particles, so long as they are magnetic. In light of this, it appears that one skilled in the art at the time of the invention would have envisaged such a list of metal particles to include: *metal powders having a metallic covering of Cr, Cd, Zn, Mn, or Fe on the surface thereof with a thickness of 1000 to 1 nm* because these individual metals are contemplated by Takaya et al. and these metallic covered powders would have been inherently magnetic.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use *metal powders having a metallic covering of Cr, Cd, Zn, Mn, or Fe on the*

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*surface thereof with a thickness of 1000 to 1 nm* in the composite of Takaya et al. because these individual metals are contemplated by Takaya et al. and these metallic covered powders would have inherently satisfied Takaya's sole requirement of being magnetic.

***Communication***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael J. Feely  
Primary Examiner  
Art Unit 1712

March 3, 2006

**MICHAEL FEELY  
PRIMARY EXAMINER**